View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

International Journal of Research in Medical Sciences
Fattahzadeh-Ardalani G et al. Int J Res Med Sci. 2017 May;5(5):2016-2020
www.msjonline.org

pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20171835

Original Research Article

Prevalence of migraine and tension headaches and related factors, 2014

Ghasem Fattahzadeh-Ardalani[1], Saeid Sadeghieh Ahari[2]*, Firouz Amani[1], Vahid Moghaddamnia[1]

[1]Department of Medicine, Ardabil University of Medical Science, Ardabil, Iran
[2]Social Determinants of Health (SDH) Research Center, Ardabil, Iran

Received: 23 February 2017
Accepted: 25 March 2017

***Correspondence:**
Dr. Saeid Sadeghiyeh,
E-mail: s.sadeghiyeh@arums.ac.ir

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Migraine and tension type headache (TTH) due to their effect on life and reducing efficacy are two major problems in human life. This study aimed to investigate the prevalence of migraine and tension headaches and factors affecting their occurrence in Ardabil, Iran.
Methods: In this cross sectional descriptive study, 900 cases were selected randomly from referral outpatients to neurology clinic of Ardabil, Iran during 2014. Diagnosis of headache type was confirmed by a neurologist and required information was obtained by general and neurological examinations of patients and recorded in a checklist and then analyzed by statistical methods in SPSS.19.
Results: Of all referral cases, 767 (85.2%) have headache which from them 27.9% have migraine and 48.2% have TTH. Among migraine patients, 15.4% was male and 84.6% was female, and among TH patients 38.1% were male and 61.9% were female. Most location of headache in migraine and TH patients was frontal and temporal with 37.8% and 28.9%, respectively. Frequency of headache attacks in migraine patients was often weekly or monthly (74.3%) and in TH patients was often daily or weekly (85.7%). The prevalence of headache history among migraine patients was significantly more than TH patients (43.5% versus 34.1%).
Conclusions: Results showed that the prevalence of migraine and TH was high in our society and most of headache attacks were weekly or daily. Because of headache causes to private and social dysfunctions, doing studies to determine risk factors in incidence of migraine and tension headaches for early detection of them is essential.

Keywords: Epidemiology, Migraine headache, Prevalence, Tension headache

INTRODUCTION

Because of the impact on human life and decreasing efficacy, migraine and tension type headache are presented as two basic problems during human life. Headache has prevalent in world and known as a general health problem in developed and less developed countries.

A study in Europe has shown that more than 50 percent of people suffer from headache. Headache is among top 10 factors affecting different aspects of people's lives and likely among the top 5disability causes in the world.[1]

Headache is the ninth complaints that patients contact their physicians for it and 30% of men and women, who have headaches, consult their doctors about it.[2] Headache has many private and public costs which was more than the cost of disability from diseases such as diabetes and hypertension.

Headache is high disease burden in Iran and is one of the most compliance that the doctors exposure with it. Annual 240 million people worldwide suffer from 1.4 billion headache attacks. Referral rate to the neurology outpatient clinic due to headache was 20% and so headache is a major goal for public health interventions.[3]

Headache has several types and is divided to primary and secondary headache. Headache may be seen in all age groups and its prevalence may be different in all age groups and also more common among women than men.[4] Among the primary headaches, migraine and TTH account for two-thirds of their total.[2]

Tension headache is the most prevalent headache among all headaches and in different studies reported from 86% in 12-41 age groups to 30-78% for all life duration. Epidemiology of these headaches was different in geographic areas.[3] In many studies, the prevalence of migraine headache was varied from 6% to 25% and TTH was varied from 4.2% to 32%.[2,5,6] In addition to the types of headache, other factors such as age, sex, education and family history affect the epidemiology of headache and the rate of migraine headache in women was more than men with ratio 3 to 1.[7]

In patients with 40 age, higher education and positive family history of headache (in 90% of cases) the prevalence of migraine was high and the rate of TTH in patients with lower education was higher.[4] This study aimed to evaluate the prevalence of migraine and TTH and related factors on its epidemiology in referral patients to neurologic clinic in Ardabil from April 2014 to January 2014.

METHODS

This was a cross-sectional descriptive study that has been done on 900 patients with headache. Necessary information was gathered by clinically examination of patients by neurologist and then entered in the checklists. Diagnosis of headache confirmed by a neurologist and its type determined by HIS (International headache society) scale. Collected data analyzed by statistical methods in SPSS.16 and the significant level was set at $p<0.05$.

RESULTS

In this study 767 (85.2%) of referred patients have headache which from them 370 (48.2%) have tension headache (Figure 1).

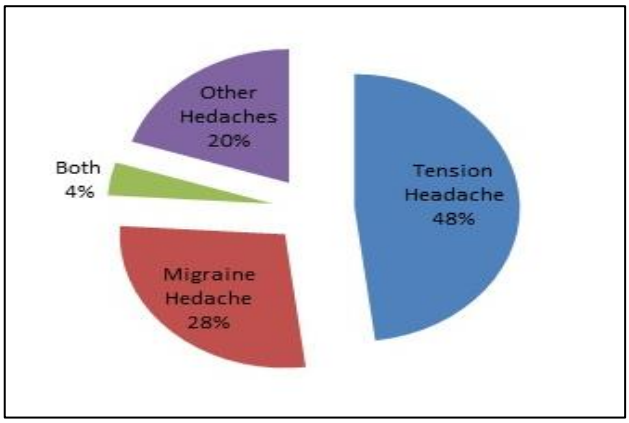

Figure 1: Types of headaches in patients.

Of 584 patients with headache, 174 (29.8%) were male and rest of them were female. The total prevalence of headache in women with 2.4 times was more than men and the difference was statistically significant between two sexes (p=0.001)

Table 1: Prevalence of headaches by demographic variables.

Type of headaches		Tension		Migraine		p-value
Variables		**N**	**%**	**N**	**%**	
Marital status	Single	75	20.3	24	11.2	0.001
	Married	295	79.7	190	88.8	
Job	Free	64	17.3	10	4.7	0.001
	employee	42	11.3	17	7.9	
	Housekeeper	211	57	155	72.4	
	Worker					
	Non-employee	32	8.6	24	11.2	
Place of residence	Rural	95	25.7	28	13.1	0.03
	Urban	275	74.3	186	86.9	
Education	Illiterate	142	38.4	51	23.8	0.02
	Under graduate	175	47.2	143	66.9	
	College	43	14.3	20	9.3	
Sex	Male	141	38.1	33	15.4	0.001
	Female	229	61.9	181	84.6	
Age groups		43.1±15.3		34.1±11.9		0.004
	<20	11	3	13	6.1	
	20-50	308	83.2	186	86.9	
	>50	51	10.1	15	7	

Table 2: Prevalence of headaches by headache location.

Type of headaches	Migraine		Tension		Total		p-value
Area	**N**	**%**	**N**	**%**	**n**	**%**	
Frontal	81	37.8	104	28.1	185	31.7	0.001
cortex	64	29.9	16	4.3	80	13.7	
occipital	19	8.9	53	14.3	72	12.3	
parietal	15	7	25	6.7	40	6.8	
temporal	23	10.7	107	28.9	130	22.3	
generalized	12	5.6	65	17.6	77	13.2	

The mean age of all patients with headache was 37.8±14.1. In patients with tension headache the mean age with 43.1±15.3 was significantly more than patients with migraine headache with 34.1±11.9 (p=0.004).

The most prevalence of tension headache was in age group 20-30 with 31.1% and in migraine headache was in 30-40 with 45.8%. Result showed that the difference between two groups was significant for variables such as marriage, job, residence place and education (p=0.001).

In patients with migraine headache most of headache location was seen in the frontal with 37.8% and in patients with tension headache in the temporal with 28.9% and the difference was significant between two groups (p=0.001) (Table 2).

Table 3: Frequency of other diseases in patients with headache types.

Type of headaches	Migraine		Tension		p-value
Area	**N**	**%**	**N**	**%**	
Hypertension	28	13.1	63	17.03	0.206
Hyperlipidaemia	16	7.5	43	11.6	0.11
Diabetes	7	3.3	23	6.2	0.12
Sinusitis	38	17.8	41	11.1	0.025
Back pain	30	14.02	76	20.5	0.049
Neck pain	47	21.9	91	24.6	0.47
Muscle pain	21	9.8	68	18.4	0.005

In patients with migraine headache the weekly and monthly attacks with 44.4% and 29.9% and in patients with tension headache weekly and daily attacks with 60% and 25.7% were the most. There was a significant difference between two migraine and tension groups. The prevalence of headache in family of patients with migraine headache with 43.5% was significantly more than patients with tension headache with 34.1%. The prevalence of OCP use in two groups was similar (23.5% vs 21.5%).

The prevalence of snoring in patients with migraine headache was almost similar to patients with tension headache (27.6% vs 23%). Results showed that there wasn't any difference in HTN, hyperlipidemia, diabetes and neck pain between two gropes but the prevalence of sinusitis in patients with migraine headache and the prevalence of musculoskeletal and back pain in patients with tension headache were the most compared to other patients (Table 3). The mean of BMI in all patients was 26.1±4 and in migraine group 26.4±5.2 and tension group was 25.8±3.2 and the difference not statistically significant.

DISCUSSION

The results showed that from all patients, 23.8% have migraine and 41.1% tension headache. In migraine group 15.4% were male and 84.6% female and in tension group 38.1% were male and 61.9% female.

Recent studies showed that the prevalence of migraine was in range 10-20% and the prevalence of tension was in range 19.5-48.6%.[1-3,7-10] All studies confirmed that the rate of headache in women was more than men.[9-14] The result of this study showed that most of headache location in migraine group was in frontal with 37.8% and in tension group was in temporal with 28.9% and most of attacks in migraine and tension groups was weekly which wasn't similar to other studies resultca.[7,15] Results of this study showed that the prevalence of headache in family of patients with migraine headache was significantly

more than patients with tension headache. (p=0.023) and also other studies confirmed the prevalence of headache in family of patients and we can found the role of genetic factors in incidence of migraine headache.[3,7,12,16-18] The result of this study showed that the usage rate of OCP in two groups was similar and in Mehdinejad et al the relation between OCP and incidence of headache not confirmed which was similar to present study resuls.[19] Contrary to popular belief that headache is increased with contraceptive use, use of oral contraceptive pills haven't role on migraine worsen or improve.[20-22]

Results showed that there wasn't any difference in HTN, hyperlipidaemia, diabetic, BMI and neck pain between two gropes but prevalence of sinusitis in patients with migraine headache and the prevalence of musculoskeletal and back pain in patients with tension headache were the most compared to other patients which was similar to study done by Ayatollahi and et al.[3]

CONCLUSION

The results showed that the prevalence of migraine and tension headache in our society (68.3%) compared to other places was high and most of attacks fierceness was weekly or daily (77.6%). Since headache due to private and social dysfunction, the future study in understanding risk factors for incidence of tension and migraine headaches for early detection is essential. Because of headache causes to personal and social dysfunctions, doing more studies to determine risk factors in incidence of migraine and tension headaches for early detection of them is essential.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Shahbeigi S, Fereshtehnejad S-M, Mohammadi N, Golmakani MM, Tadayyon S, Jalilzadeh G, et al. Epidemiology of headaches in Tehran urban area: a population-based cross-sectional study in district 8, year 2010. Neurological Sciences. 2013;34(7):1157-66.
2. Ayatollahi SM, Sahebi L, Borhani HA. Epidemiologic and characteristics of migraine and tension type headache among hospital stuff of Shiraz (Iran). Acta Media Iranica. 2009;47(2):115-20.
3. Ayatollahi SM, Cheraghian B. An epidemiologic model for risk factors of migraine and Tension Type Headaches among primary schools teachers of Shiraz, 2003. J Kerman Univ Med Sci. 2005;12(2):85-92.
4. Robert BF, Gerald Mf, Joseph JA, John MA. Bradley's neurology in clinical practice, 6th ed. :2010;1:1715-30.
5. Fallahzadeh H, Alihaydari M. Prevalence of migraine and tension-type headache among school children in Yazd, Iran. J Pediatr Neurosci. 2011;6(2):106-9.
6. Momayyezi M, Fallahzadeh H, Momayyezi M. Prevalence of migraine and tension-type headache in Yazd (Iran). Zahedan J Res Med Sci. 2015;17(4):1-7.
7. Khazaei T. Prevalence of migraine and tension headaches between Birj and medical students in 2010. The national congress of youths health promotion, Kermanshah, Iran, 2011.
8. Goldman MB, Troisi R, Rexrode KM. Epidemiology of Headaches of women: emphasis on migraine. In: Goldman MB, Hatch MC, eds. Women and Health. 2nd ed. Academic Press; 2012:1341-53.
9. Pahim LS, Menezes AM, Lima R. Prevalence and factors associated to migraine in adult population, southern Brazil. Revsaude Publica. 2006:40(4):692-8.
10. Modara F. Prevalence of tension and migraine headachesamong the students of ILAM Medical University. J ILAM Univ Med Sci. 2008;15(4):13-21.
11. Yousefi M. Prevalence of Migraine between medical students and Zanjan medical doctors. J Zanjan Univ Med Sci Health Services. 2000;8(30):18-22.
12. Sadreddini SA, Pashapour A, Talebi M, Sadati B. Assessment of prevalence and type of headache in medical students. Med J Tabriz Univ Med Sci Health Services. 2006;28(3):73-80.
13. Kurt S, Kaplan Y. Epidemiological and clinical characteristics of headache in university students. Clin Neurol Neurosurg. 2008;110(1):46-50.
14. Ashjazadeh N, Jowkar H. The prevalence of migraine and tension types of headache among epileptic patients. Caspian J Neurol Sci. 2015;1(3):41-6.
15. Behrouz B, Amini K, Shakhniya F, Abedi A, Ghasemi N. The epidemiology and clinical characteristics of migraine and tension headaches among the patients referred to Farabi Hospital in Kermanshah city in year 2011. Iranian J Epidemiol. 2013;9(1):58-65.
16. Sweileh WM, Sawalha AF, Zyoud SH, Al-Jabi SW, Shamseh FF, Khalaf HS. Epidemiological, clinical and pharmacological aspects of headache in a university undergraduate population in Palestine. Cephalalgia. 2010;30(4):439-46.
17. Deleu D, Khan MA, Humaidan H, Al Mantheri Z, Al Hashami S. Prevalence and clinical characteristics of headache in medical students in Oman. Headache. 2001;41(8):798-804.
18. Adoukonou T, Houinato D, Kankouan J, Makoutode M, Paraiso M, Tehindrazanarivelo A, et al. Migraine among university students in Cotonou (Benin). Headache. 2009;49(6):887-93.

19. Mahdinejad KM, Khodaee A. Effects of combined low estrogen oral contraceptive pills on migraine and tension headaches. J Gorgan Univ Med Sci. 2011;12(4):51-4.
20. Rosenberg MJ, Waugh MS. Oral contraceptive discontinuation: a prospective evaluation of frequency and reasons. Am J Obstet Gynecol. 1998;179(3):577-82.
21. Petitti DB. Clinical practice: Combination estrogen-progestin oral contraceptives. N Engl J Med. 2003;349(15):1443-50.
22. Loder EW, Buse DC, Golub JR. Headache as a side effect of combination estrogen-progestin oral contraceptives: a systematic review. Am J Obstet Gynecol. 2005;193(3 Pt 1):636-49.

Cite this article as: Fattahzadeh-Ardalani G, Sadeghieh-Ahari S, Amani F, Moghaddamnia V. Prevalence of migraine and tension headaches and related factors, 2014. Int J Res Med Sci 2017;5:2016-20.